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Deployment Surveillance

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**Sustaining Readiness through Healthy
Communities**



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Briefing Outline

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- Drivers
 - Historical Background
 - DNBI Reporting
 - Analyses on site
 - Wrap up
-



Deployment Surveillance Drivers



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Presidential Review Directive/NSTC - 5

- **Arose from Gulf War Veteran's illness concerns**
- **Minimize/prevent post-conflict health issues**
 - **Risk communication**
 - **Health & exposure data collection**
 - **Coordinated research programs**
 - **Improve healthcare delivery**

Resulted in August 1998 release, *"A National Obligation. Planning for Health Preparedness for and Readjustment of the Military, Veterans, and Their Families after Future Deployments."*



Joint Chief's Response

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DoD Directive 6490.2, *Joint Medical Surveillance*



- **All Service members mission capable**
- **Surveillance before, during, and after deployments**
- **Career follow-up to assess deployment health effects**
- **Risk communication before and during deployments**
- **Monitor environmental, occupational, epidemiologic threats**
- **Assess DNBI, stress casualties, combat casualties**
- **Enforce effective countermeasures, optimal medical care**

**Additional Guidance, DoD Instruction 6490.3,
*Implementation and Application of Joint Medical
Surveillance for Deployments***



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Working Guidance

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JCS Memorandum MCM-006-02, Updated Procedures for Deployment Health Surveillance and Readiness

- **Mandates use of weekly DNBI report for deployments**
 - **Provides case definitions for DNBI categories**
 - **Provides examples**
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Deployment Defined

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- JCS or Unified Cmd deployment order delivered
 - More than 29 continuous days
 - Land-based location outside the US
 - No permanent US MTF present
 - Applies to Activated Reserve Components regardless of location (HA Policy:01-017)
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Historic DNBI Rates



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DNBI Category	DNBI Rate per 1,000 Personnel per Week				
	ODS/S¹	Somalia₁	OJE²	Haiti³	OJG⁴
Dermatologic	9.3	22.9	7.2	13.0	9.2
GI, Infectious	8.7	8.6	4.5	9.0	4.5
Total Injury	11.9	26.8	19.5	19.0	21.9
Respiratory	10.4	10.2	10.0	18.0	20.9
Total DNBI	64.8	106.5	70.9	113.0	81.2

¹Writer, DeFraites, Keep. Am J Prev Med 2000;18(3S):64-70.

²Sanchez, Craig, Kohlhase, et al. Mil Med 2001;166:470-4.

³Gambel, Drabick, Martinez-Lopez. Int J Epidemiol 1999;28:312-8.

⁴McKee, Kortepeter, Ljaamo. Mil Med 1998;163:733-42.



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DNBI Variability

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- Rates vary by operation
 - Rates vary by location
 - Rates vary over time
 - Rates vary with time on station
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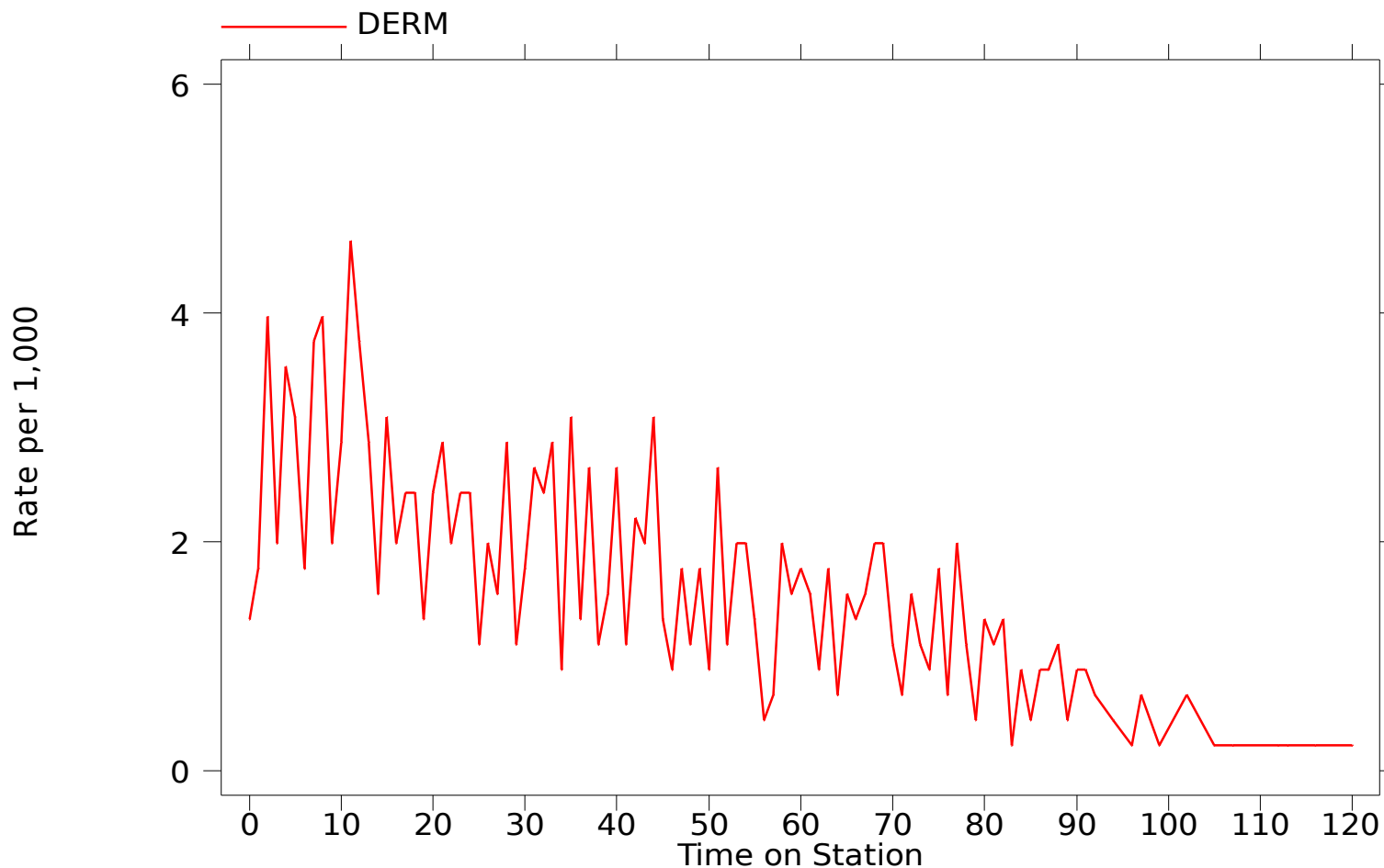


Derm – Time on Station



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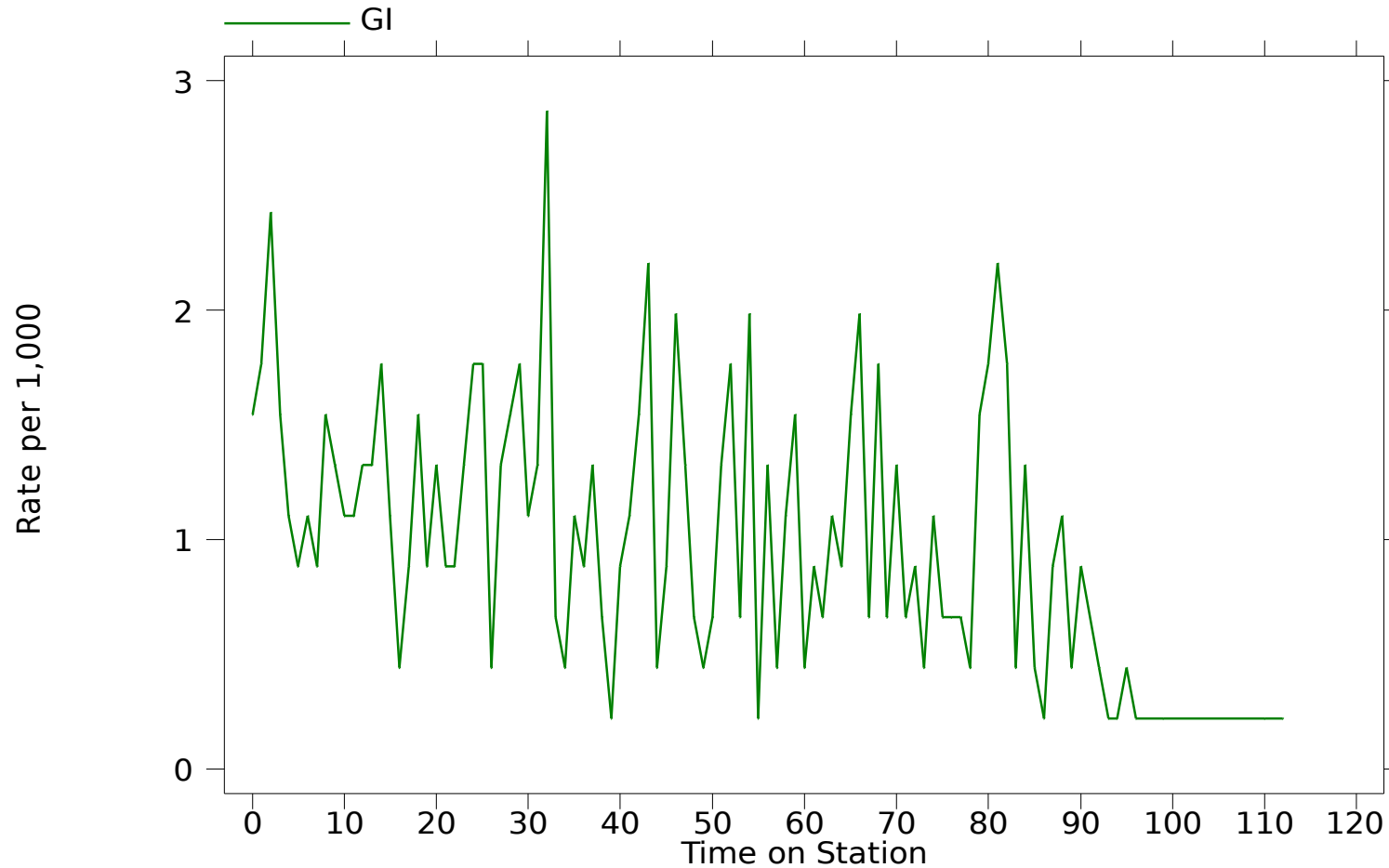


GI -- TOS



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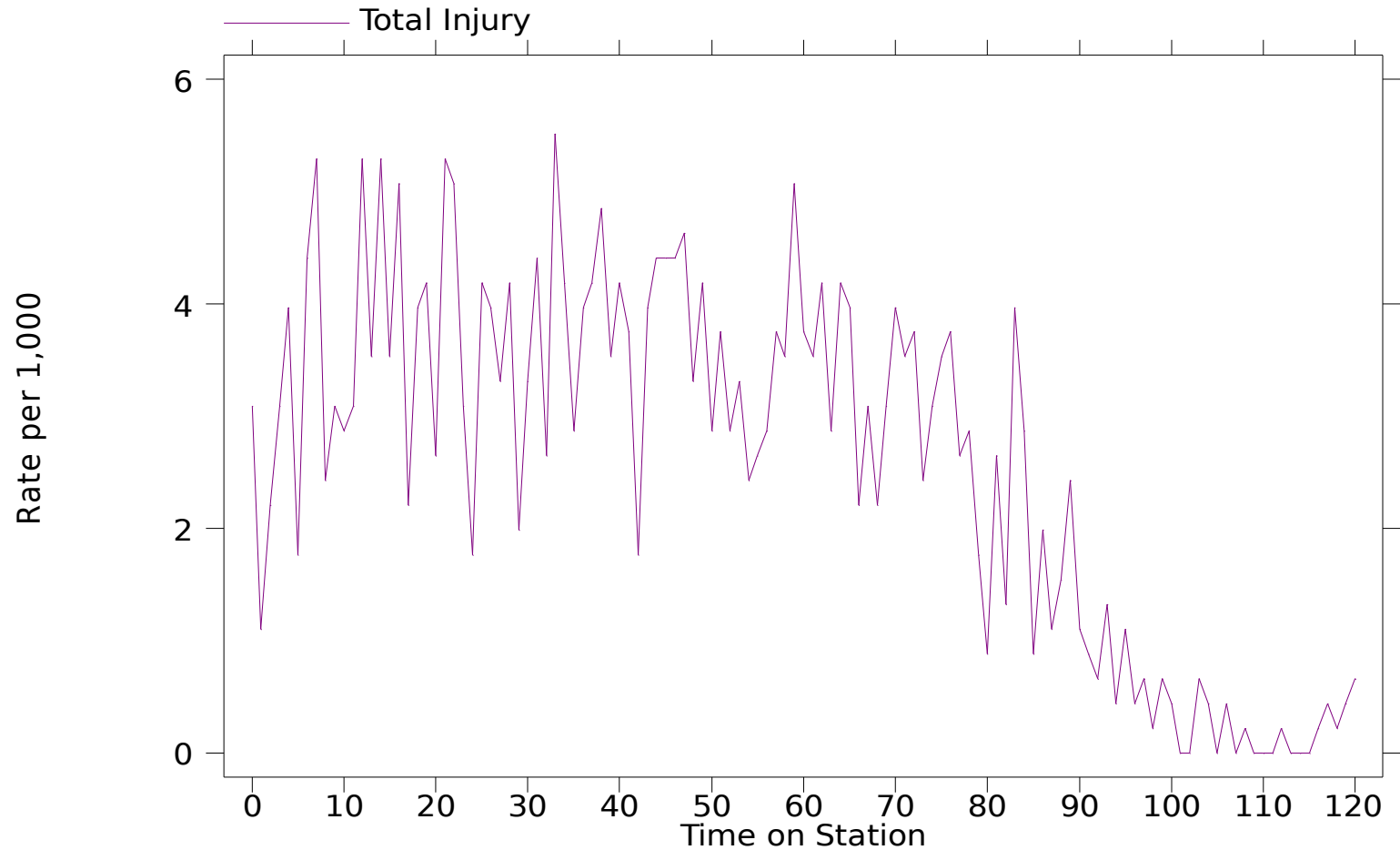




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Injury -- TOS

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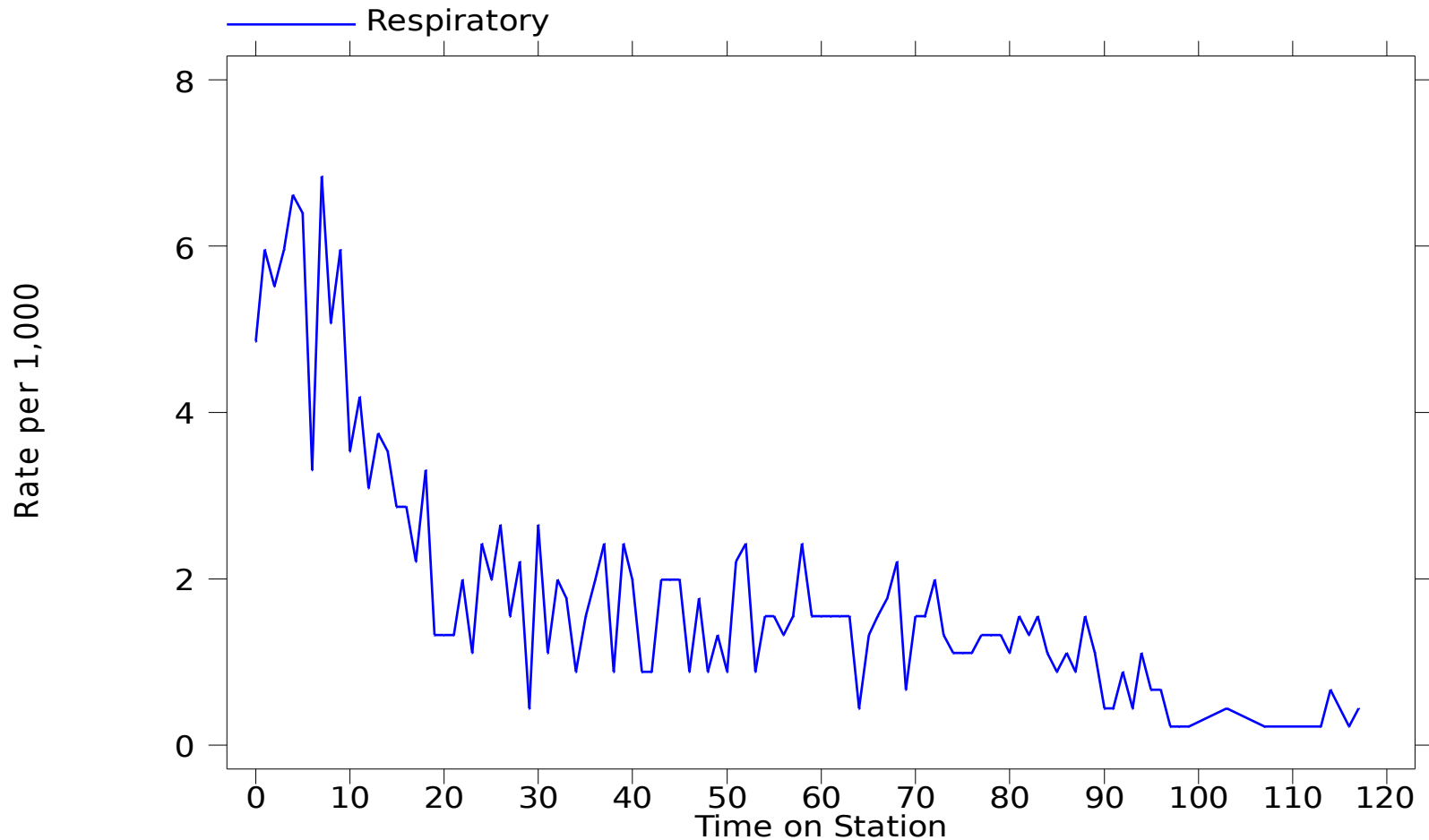




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Respiratory -- TOS

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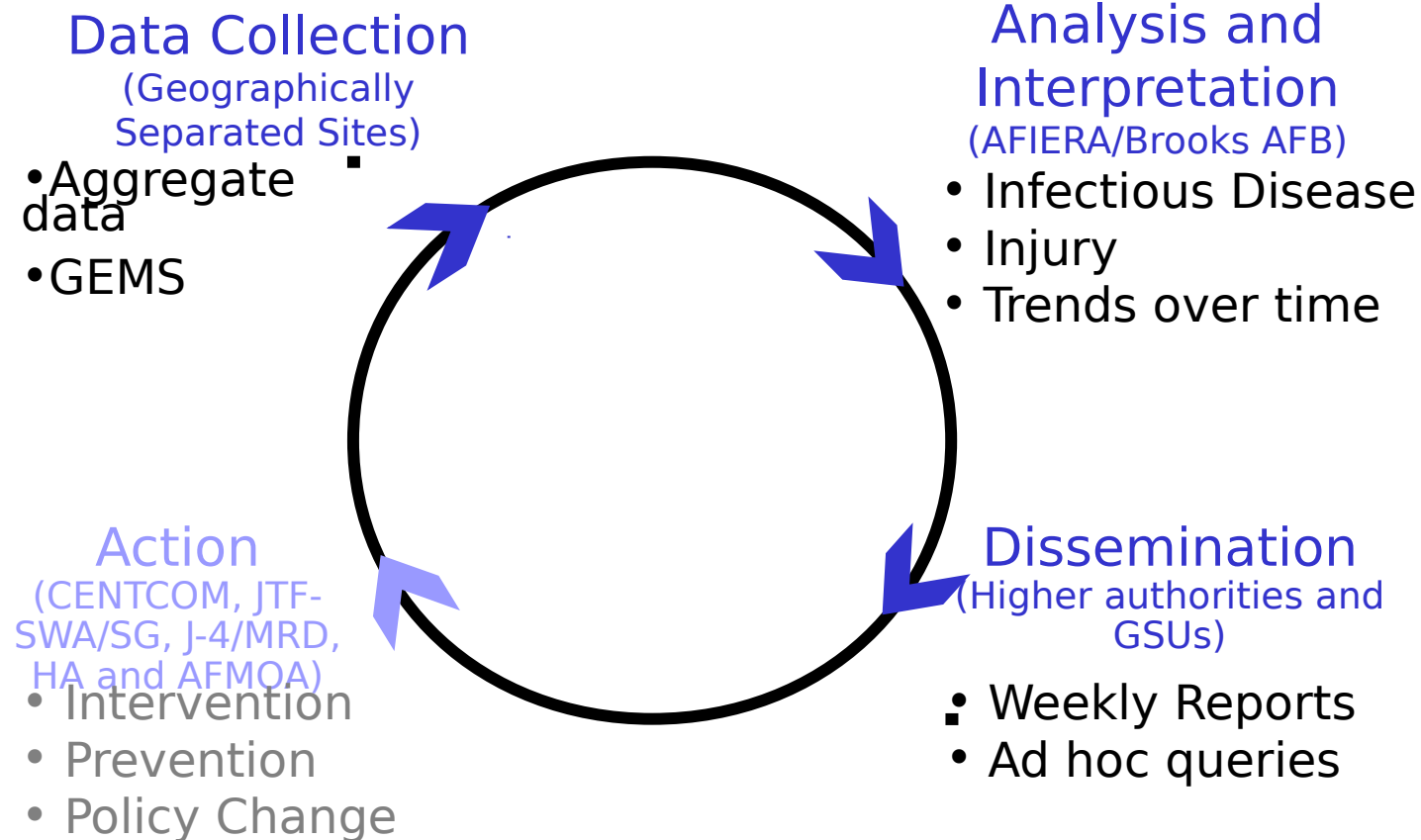


Surveillance During Deployments



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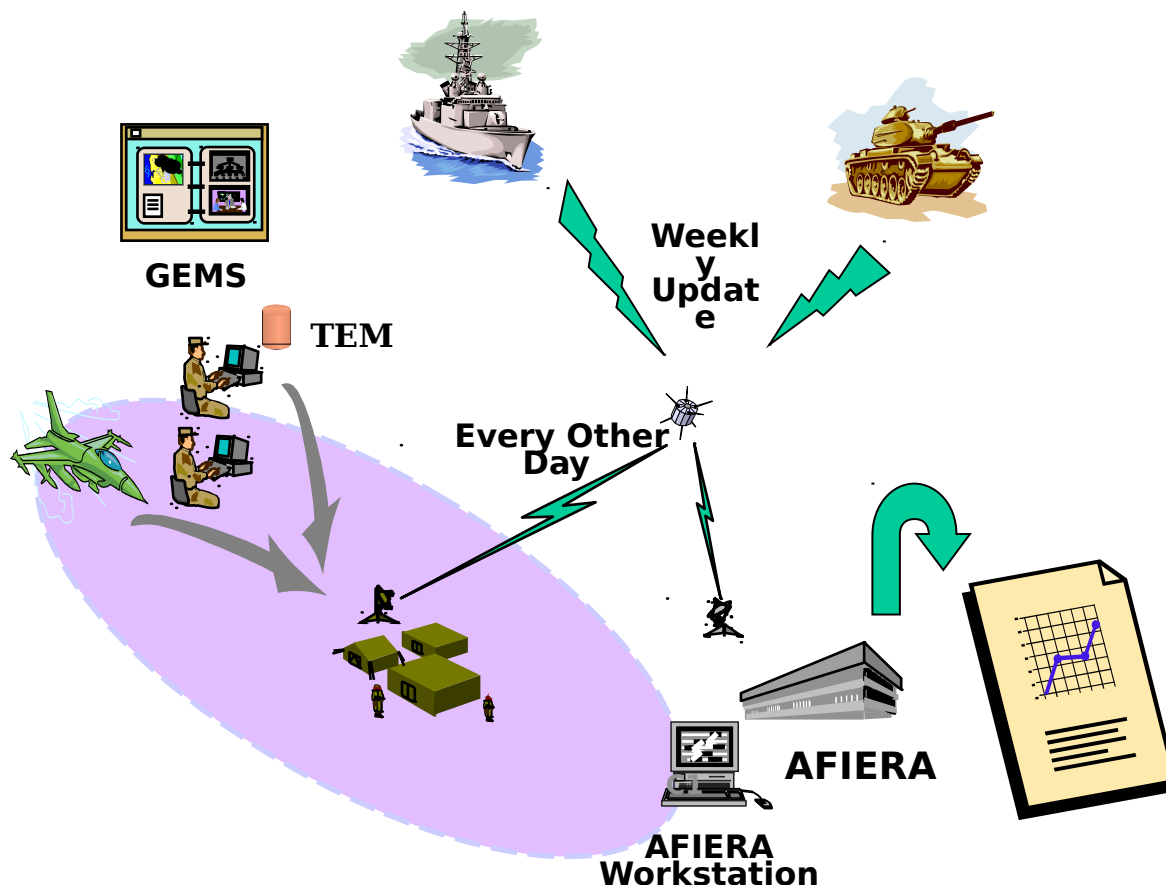


CENTCOM DNBI Data Flow



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- Disease and non-battle injury surveillance for OEF
- Air Force, Army, Navy, Marine Corps
- Results classified —weekly reports delivered to customers via SIPRNet



Current JCS DNBI Categories



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- Combat/Operational Stress Reactions
 - Dermatologic
 - GI, Infectious
 - Gynecologic
 - Heat/Cold Injuries
 - Injury, Recreational/Sports
 - Injury, MVA
 - Injury, Work/Training
 - Injury, Other
 - Ophthalmologic
 - Psychiatric/Mental Disorders, not Combat Stress
 - Respiratory
 - STDs
 - Fever, Unexplained
 - All other Medical/Surgical
 - Total DNBI
 - Dental
 - Misc/Admin/Follow-up
 - Other locally defined
-



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WEEKLY DNBI REPORT



Unit/Command: _____ Troop Strength: _____

Dates Covered: _____ (Sunday 0001) Through _____ (Saturday 2359)

Individual Preparing Report: _____

Phone: _____ E-Mail: _____

CATEGORY	INITIAL VISITS	RATE	SUGGESTED REFERENCE RATE	DAYS OF LIGHT DUTY	LOST WORK DAYS	ADMITS
Combat/Operational Stress Reactions			0.1%			
Dermatologic			0.5%			
GI, Infectious			0.5%			
Gynecologic			0.5%			
Heat/Cold			0.5%			
Injury, Recreational/Sports			1.0%			
Injury, MVA			1.0%			
Injury, Work/Training			1.0%			
Injury, Other			1.0%			
Ophthalmologic			0.1%			
Psychiatric, Mental Disorders			0.1%			
Respiratory			0.4%			
STDs			0.5%			
Fever, Unexplained			0.0%			
All Other, Medical/Surgical						
TOTAL DNBI			4.0%			

Dental		XXXXXX				
Misc/Admin/Follow-up		XXXXXX				
Definable						
Definable						

Problems Identified: _____ Corrective Actions: _____

DNBI Reporting Form for Joint Deployments
JOINT STAFF APPROVED - NOVEMBER 1998



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DNBI Reporting Issues

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- Use standard case definitions
 - Only count initial visits
 - Identify population at risk
 - Calculate rates per 1,000 or 100 population
 - Local analysis
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Analysis

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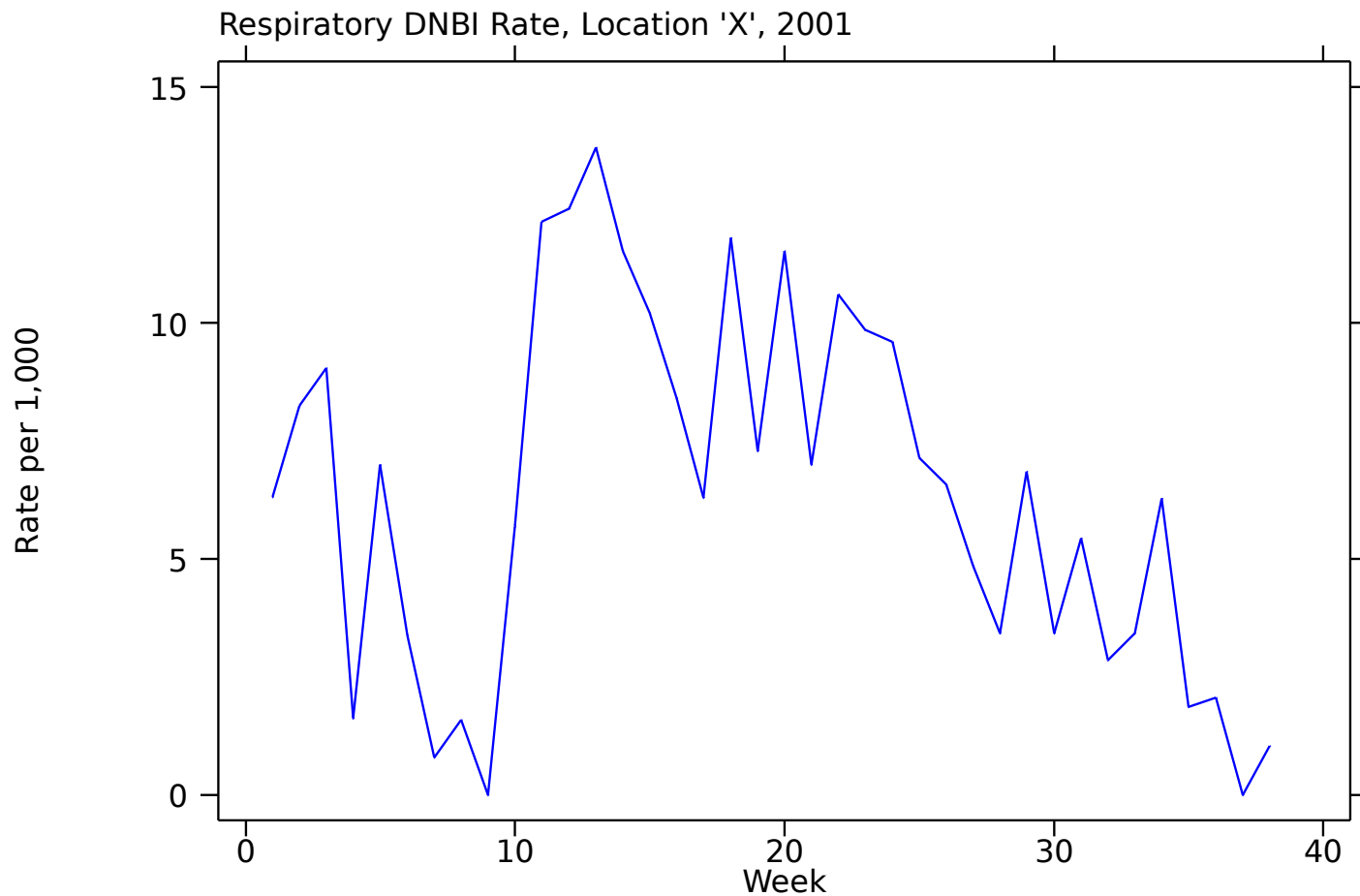
- Collect the best data you can
 - Convert to rates
 - Use simple graphs
 - Use common decision support tools
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Start with trend graphs

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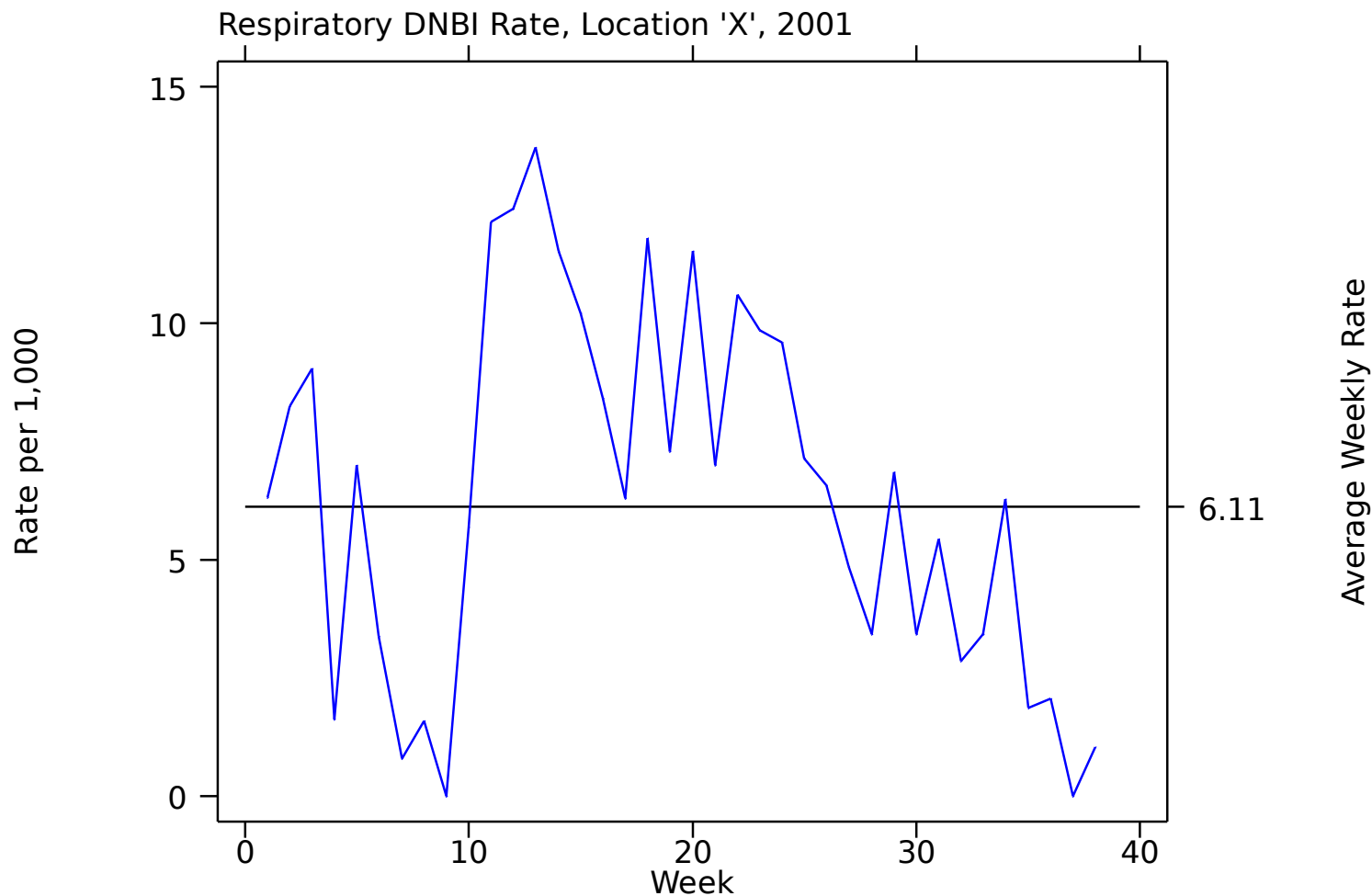




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Add a Baseline

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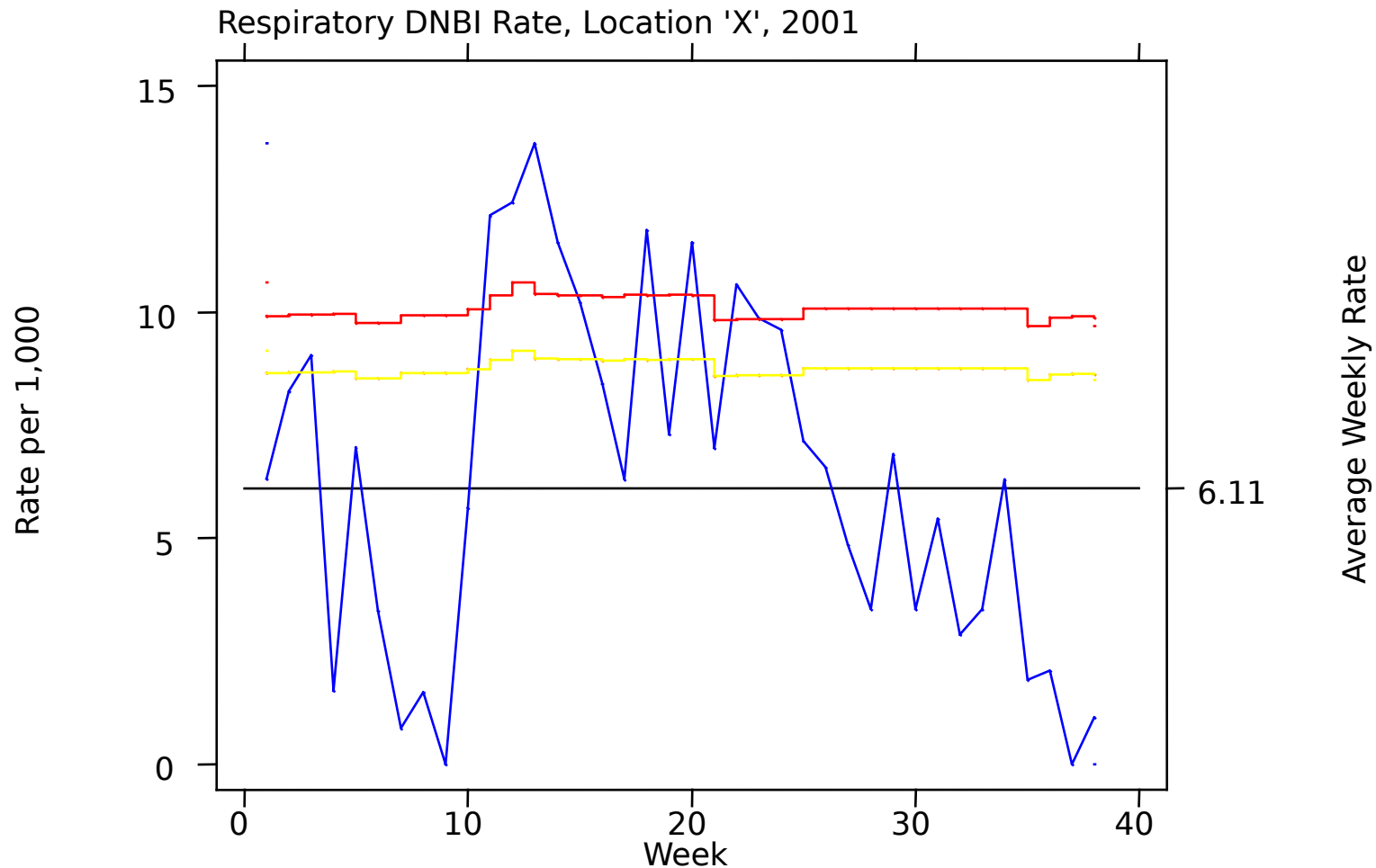




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Add Thresholds

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Graph "Current vs. Past Experience"



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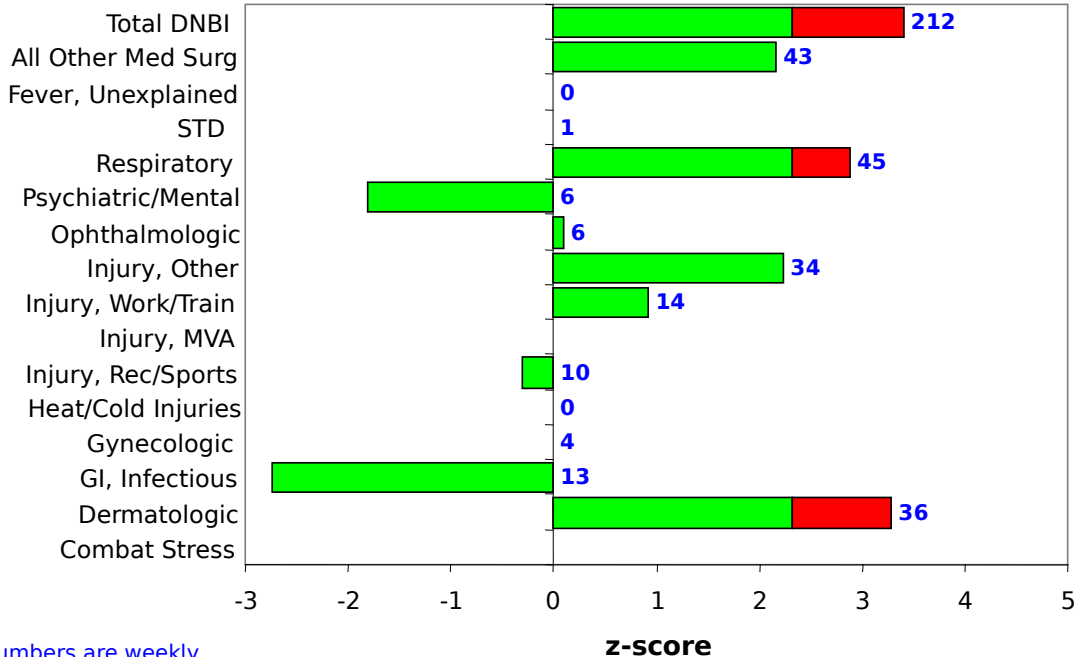


Location 'X' Week Ending 17 Sep 2001

JCS DNBI Category

Decrease

Increase



Note: Blue numbers are weekly case counts

■ Within Historical Limit ■ Alert



What do you do with alarms?



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- Confirm there's an excess
 - Decide if it's real or not
 - Define and look for more cases
 - Look for commonality among cases
 - Review environmental data
 - Define population at risk
 - Develop and test hypotheses
 - Execute control and prevention measures
-



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Web Resources

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- <http://starview.brooks.af.mil/afiera/>-- AFIERA
 - http://amsa.army.mil/AMSA/amsa_home.htm – click deployment button
 - <http://wwwnehc.med.navy.mil/prevmed/epi/depsurv.htm>
 - <http://deploymentlink.osd.mil/> -- select deployments tab
-



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Conclusions

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- Deployment surveillance is important
 - Data quality is an issue
 - Accurate case reports
 - Accurate force strength
 - Numerators must come from denominator
 - Consistent reporting is essential!
 - Statistics cannot replace vigilance and judgment
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